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ATMI-579

Section II (Amendment to the Claims)

Please amend claims 1, 2, 3, 5-8, 11, 16-18, 20 and 23 and add new dependent claims 25-29 as set forth in the following listing of claims 1-29.

1. (Currently amended) A sampling system for ~~determining~~ concentration of additives in a metal plating bath solution from an electrochemical processing tool, the system comprising:

a) at least one analysis chamber;

b) a sampling duct comprising a sampling inlet and a first and second sample loop for holding ~~a known amount~~ known amounts of a sample of the plating bath solution, wherein the sampling inlet is in fluid communication with the electrochemical processing tool for receiving a plating bath sample for analysis in the at least one analysis chamber;

c) a four-way valve comprising a connection to a purging ~~fluid~~ gas stream, a connection to the electrochemical processing tool for removal of a sample for analysis, a connection to a waste outlet and a connection to the sampling inlet for movement of the sample into the sampling duct;

d) at least one actuatable multi-port valve positioned in fluid communication with at least one of the sample loops and in fluid communication with the sampling duct;

e) at least one carrier fluid duct in fluid communication with the analysis chamber, wherein the carrier fluid duct and sampling duct are in fluid communication via the actuatable multi-port valve;

f) a flow sensor in fluid communication with the sampling duct and positioned downstream from both of the sample loops, wherein the flow sensor measures a predetermined quantity of plating bath sample flowing through sample duct;

g) a waste drain connected to the sampling duct and positioned downstream of the flow sensor and analysis chamber for removal of analyzed sample from the analysis chamber and excess sample removed from the sample duct; and

h) a purging ~~fluid~~ gas source in fluid communication with the four-way valve for introducing a purging ~~fluid~~ gas ~~source~~ into the sampling duct between successive sample analyses for flushing the sample, the analyzed sample or both from the system, or portions thereof, and into ~~movement through the sample duct to~~ the waste drain.